



The Under Secretary of Energy
Washington, DC 20585

MAY 09 1991

The Honorable Ron De Lugo
Chairman, Subcommittee on Insular
and International Affairs
Committee on Interior
and Insular Affairs
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

I am writing to you in response to your letter of October 5, 1990, to Mr. Harry U. Brown, Nevada Operations Office (NV), and to your letter of November 19, 1990, to Mr. Nick C. Aquilina, Manager, NV, in which you requested a copy of the study referenced under "objectives" of the "Radiological Survey Plan for the Northern Marshall Islands," Department of Energy (DOE), August 22, 1978. I am sorry for the lengthy time in responding to your request. It has been difficult finding the appropriate individuals who participated in the study. A thorough search has been necessary to verify if a formal report of the study was indeed prepared.

The "DOE study" you referenced was, in fact, a review by the technical staff at Headquarters, Atomic Energy Commission (AEC), of files containing information on nuclear tests conducted at Bikini and Enewetak atolls. We contacted Mr. Tommy McCraw who was an AEC employee at that time and was one of the technical staff members involved. According to Mr. McCraw, the review included available radiological monitoring data and the meteorological information for each test. For the tests with the higher fission yields, fallout trajectories were developed from the winds for the day of the test, and atolls were identified that most likely received close-in fallout. The calculations used to do this analysis were prepared as draft working notes, were never formally published, and are no longer available. The only published information from this "DOE study" was included as Tab 8 (Enclosure 1) of the report referenced above. This enclosure identifies the 11 atolls and 2 islands that were designated for inclusion in the 1978 Aerial Radiological Survey.

The logistical aspects of obtaining the aerial survey data used to conduct this screening survey were coordinated by NV. The NV had no role, however, in the analysis of the data and the development of the data in Tab 8.

Enclosure 2 is a Preface that describes the process by which this chart of the atolls and islands to be surveyed was determined. This Preface was never published as a part of any survey report. It is provided to assist you in your understanding of how the study was conducted.

It should be emphasized that the subject radiological survey was performed to better define the region receiving higher levels of fallout and to identify where additional sampling should be performed. The survey was never intended to be a comprehensive analysis of fallout location throughout the entire region. The ongoing Republic of the Marshall Islands Nationwide Radiological Study being conducted by Dr. Steven Simon represents a far more exhaustive study, and should provide a more complete picture on the total extent of contamination throughout the area.

We hope you will find this information useful.

Sincerely,

John C. Tuck

2 Enclosures

5004713

ATTACHMENT 1

TAB 8

APPENDIX 1

FALLOUT FROM PACIFIC TESTS

FALLOUT PATTERN-BRAVO EVENT 1954

5004714

FALLOUT FROM PACIFIC TESTS

| <u>ATOLLS IN FALLOUT AREA</u> | <u>EVENTS</u> | <u>LOCATION</u> | <u>DATE</u> |
|-----------------------------------|-------------------|-----------------|-------------|
| AILINGINAE | SANDSTONE-ZEBRA | ENEWETAK | 5/48 |
| | CASTLE-BRAVO | BIKINI | 2/54 |
| | CASTLE-UNION | BIKINI | 4/54 |
| | CASTLE-YANKEE | BIKINI | 5/54 |
| | HARDTACK-MAPLE | BIKINI | 6/58 |
| AILUK | CASTLE-BRAVO | BIKINI | 2/54 |
| BIKAR | CASTLE-BRAVO | BIKINI | 2/54 |
| | CASTLE-YANKEE | BIKINI | 5/54 |
| BIKINI | ALL BIKINI EVENTS | - | - |
| LIKIEP | CASTLE-BRAVO | BIKINI | 2/54 |
| | SANDSTONE-ZEBRA | ENEWETAK | 5/48 |
| RONGELAP | CASTLE-BRAVO | BIKINI | 2/54 |
| | CASTLE-UNION | BIKINI | 4/54 |
| | CASTLE-YANKEE | BIKINI | 5/54 |
| | SANDSTONE-ZEBRA | ENEWETAK | 5/48 |
| RONGERIK | CASTLE-BRAVO | BIKINI | 2/54 |
| | CASTLE-UNION | BIKINI | 4/54 |
| | CASTLE-YANKEE | BIKINI | 5/54 |
| | SANDSTONE-ZEBRA | ENEWETAK | 5/48 |
| TAKA | CASTLE-BRAVO | BIKINI | 2/54 |
| UJELANG | IVY-KING | ENEWETAK | 11/52 |
| | HARDTACK-MAGNOLIA | ENEWETAK | 5/58 |
| UTIRIK | CASTLE-BRAVO | BIKINI | 2/54 |
| WOTHO | CASTLE-BRAVO | BIKINI | 2/54 |
| | HARDTACK-MAPLE | BIKINI | 6/58 |
| JEMO ISLAND* | CASTLE-BRAVO | BIKINI | 2/54 |
| MEJIT ISLAND* | CASTLE-BRAVO | BIKINI | 2/54 |

*The term "Island" is used in this case to denote an isolated island that is not part of an atoll and does not have a lagoon.

FALLOUT PATTERN

BRAVO EVENT

MARCH 1954

5004716



ESTIMATED INTERMEDIATE CONTOUR

HIGH LEVEL CONTOURS

BIKAR ATOLL

UTIRIK ATOLL

TAKA ATOLL

MEJIT ISLAND

AILUK ATOLL

JEMO ISLAND

LIKIEP ATOLL

RONGERIK ATOLL

RONGELAP ATOLL

ALINGINAE ATOLL

BIKINI ATOLL

WOTHO ATOLL

10°

168°

170°

10°

